Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554

In the Matter of	)	
	)	
Promoting Diversification of Ownership In The Broadcasting Services,	)	MB Docket No. 07-294
	)	
etc.	)	MB Docket No. 06-121
	)	MB Docket No. 02-277
	)	MM Docket No. 01-235
	)	MM Docket No. 01-317
	)	MM Docket No. 00-244
	)	MB Docket No. 04-228

REPLY COMMENTS OF
COMMON FREQUENCY

Common Frequency respectfully submits these reply comments in response to initial comments filed in the Commission's *Third Further Notice of Proposed Rulemaking* in the proceedings listed above ("R&O/Third FNPRM").[1]

I. Introduction

The *R&O/Third FNPRM* asks for comments regarding the participation of new and diverse entrants. Common Frequency originally filed a comment encouraging the Commission to examine the possibilities of reallocating analog television channels 5 and 6 for radio broadcast usage. Among the options we prescribed were using television channels for a digital radio service, and utilizing the few radio channels below channel 201 for expanded analog FM

[1] Concerning *Third Further Notice of Proposed Rulemaking* for *Promoting Diversification of Ownership In the Broadcasting Services,* 23 FCC Rcd. 5922 (2008)

service. Educational Media Foundation, E-String Wireless, Ltd., Horizon Christian Fellowship (San Diego), Liberty University, Inc., Living Proof, Inc., Victoria Radioworks, Ltd., Positive Alternative Radio, Inc, and Calvary Chapel of Twin Falls, Inc. ("EMF *et al*.") also submitted a comment recommending reallocation of channels 198, 199, and 200 for FM service. EMF *et al*. assert that these channels may be optimal for LPFM service. Although we urge the Commission to examine the possibilities for using channels 198-200 for non-commercial service, we also contend that these channels offer limited use for LPFM, and such a solution for expanded LPFM is not an equivalent substitute for making additional LPFM channels available elsewhere on the FM band.

Broadcast Maximization Committee ("BMC") submitted a comment that included a well-researched proposal on a digital radio solution for television channels 5 and 6. Although the comment is sensible start towards working to remedy the lack of radio band for new entrants, the finer points of the proposal warrant further discussion.

II. Concerning Comments of EMF *et al.*

A. LPFM Service on Channels 198, 199, 200 Does Not Solve Lack Of Channels For LPFM

We assert that EMF *et al*. have a general interest in preventing LPFM service to utilize any channels that may currently, or have future possibility, of being used for translator service.[2] We feel their comment is not in the spirit of fostering diversity, as the *R&O/Third FNPRM* sets forth to accomplish, but to offer an alternative plan for LPFM that will better suit their own

[2] See EMF Comments filed for MM Docket 99-25: *Letter to Kevin J Martin July 30, 2008, Reply Comment April 21, 2008*, *Comment April 7, 2008*; EMF, Gold Coast Broadcasting, LCC, et al.: *Reply to Oppositions to Petition for Reconsideration*, *Reply to Opposition to Request Stay March 25, 2008*, *Request for Stay March 13, 2008*; Positive Alternative Radio: *Petition for Reconsideration February 19, 2008*, *Comment May 20, 1990.*

needs as translator owners.[3] Their proposed solution is set forth to "bypass conflicts between authorizing new LPFM stations on the one hand, and current translator operations and applications and FM upgrades on the other."[4] Although we would applaud such a Pareto solution, the proposal they have presented is more limiting to new LPFM service in urban areas compared to viable solutions the Commission already has recently sought comment on regarding Docket 99-25.

The FCC defines the original intent of the creation of a translator service as to "provide supplementary service to areas in which direct reception of radio service is unsatisfactory due to distance or intervening terrain barriers (e.g., a mountain)".[5] Over the years certain parties have utilized loopholes to transform translator service into a device to build regional and national radio networks of behemoth proportions. Others have applied for translators for speculative purposes. At the heart of the issue, translator service has begun to utilize many channels in urban areas, leaving no channels left for LPFM service. The paradigm unfolding is the opposite of what translator service was originally intended for: Rural and network stations are extending service into major metropolitan areas. The examples EMF *et al.* cite as the function of translator service include:

> …Nor was LPFM intended to displace FM translators, the "role [of which] among aural services is to provide secondary service to areas in which direct reception of signals from FM broadcast stations is unsatisfactory due to distance or intervening terrain." *Second LPFM Recon. Order*, 20 FCC Rcd. at 6776.[6]

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[3] From records we have available, the approximate number of translators per each group are as follows: EMF ~330 licensed, ~1000 pending; E-String Wireless: ~11 licensed, ~35 pending; Horizon Christian Fellowship (unclear which are directly licensed to San Diego specifically) ~296 licensed, ~32 pending; Liberty University ~33 licensed, ~6 pending; Positive Alternative Radio ~55 pending, ~47 licensed; Calvary Chapel of Twin Falls ~429 licensed, ~309 pending; could not find any attributable to Victoria Radioworks.
[4] EMF *et al*, Comment, p. 2.
[5] From *What Is An FM Translator or FM Booster Station?* located at http://www.fcc.gov/mb/audio/translator.html
[6] EMF *et al*. Comment p. 6.

> FM translator stations are an indispensable means by which public and nonprofit entities, such as NPR and other networks, as well as state and local public radio entities, serve rural communities that are often unable to receive full power service or are ignored by commercial full power radio stations. As noted, FM translator stations are critical in delivering essential news, weather, and emergency information, particularly in rural and terrain challenged areas.[7]
>
> …translators help licensees serve "areas in which direct reception of signals from FM broadcast stations is unsatisfactory due to distance or intervening terrain obstructions."[8]

These excerpts resonate with the traditional notion that translators are to be used in circumstances where rural areas are cut off by terrain from receiving radio service from a nearby community of license. But the problem between translators and LPFM is not a rural reception issue, so the above cannot be reasonably ported as evidence in support of translators in urban areas. The current predicament is that translators occupy bandwidth in urban areas where new diverse localized services could be located. It is not the intent of LPFM to cut service to indispensable programming in rural areas, as sufficient allocations for new LPFM stations may already currently exist already in these areas.

Upon licensing translators in urban areas for reasons beyond their original intent, these parties should have realized that networks built upon such supplemental, or secondary services may need to eventually succumb to new localized services in certain areas to provide a higher local usage for those channels. There is nothing within FCC regulation that calls for the protection of this new purpose of translator service. Although we believe that translators do serve for legitimate purposes, we also believe that translator owners should not hoard all the channels in areas where no open LPFM channels currently exist.

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[7] EMF *et al.* Comment p. 8. citing *Reply Comments of Edgewater Broadcasting, Inc., et al.*, Docket No. 99-25, Sept.19, 2005, at 2.

[8] EMF *et al.* Comment p 8, footnote 12, citing *Amendment of the Commission's Rules Concerning FM Translator Stations*, 5 FCC Rcd. 7212, 7219 (1990).

When LPFM service was established back in 2000, it offered a unique tool for local public service. Due to the low cost of operation, LPFM stations can originate diverse local, geographic niche programming that no other service can realistically support. We believe that LPFM could accomplish this goal if implemented correctly, and given access to adequate channels for employment. The Commission is sympathetic to this viewpoint through its discussion in the *Third Report and Order and Second Further Notice* of *Creation of a Low Power Radio Service* ("LPFM Third R&O")*.*[9] The FCC acknowledges that translators have impacted LPFM implementation so it has attempted to cap processing from Auction No. 83.[10] With defense of the pending applications concerning Auction No. 83, EMF *et al.* explains:

> As the Commission has recognized, the public has a "legitimate expectation that existing service will continue."[11] In that context, it also found "[r]emoval of service is warranted only if there are sufficient public interest factors to offset the expectation of continued service." *Id*. *See also Quorom Radio Partners of Va., Inc.*, 23 FCC Rcd. 857, 859-60 (MB 2008); *Roy E. Henderson*, 22 FCC Rcd. 19170, 19173 (MB 2007) (each applying *New Community MO&O*, 5 FCC Rcd. at 7097).[12]

However, most of the urban translators applied for in Auction No. 83 are still pending in mutually exclusive groups. Pertaining to the above, how can the public have the expectation of these translator services continuing when they are not even on-air?

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[9] See Third Report and Order and Second Further Notice for *Creation of a Low Power Radio Service*, 22 FCC Rcd 21912. FCC discusses utilization of contour-based methodology for LPFM and LPFM/translator priorities para 78-84.
[10] See *Media Bureau Suspends Dismissal of FM Translator Application Related to Processing Cap*, 23 FCC Rcd 5629.
[11] Amendment of the Commission s Rules Regarding Modification of FM and TV Authorizations to Specify a New Community of License, 5 FCC Rcd. 7094, para 19 (1990) (New Community MO&O).
[12] EMF *et al.,* Comment p. 10-11.

EMF *et al*. offer an alternative solution in their Comment to accommodate additional LPFM service via use of channels 198, 199, and 200 at the lower end of the FM band instead of any "translator-adverse" options in the LPFM proceeding:

> The "tremendous opportunities for new entrants" that the Commission believes can arise from the reallocation of TV Channels 5 and 6 in this proceeding, plainly could be utilized to help satisfy demands for LPFM allotments. Specifically, the top 2 or 3 channels that can be made available for FM by such reallocation, which might be characterized as 87.9, 87.7 and 87.5 (or Channels 200, 199, and 198), could be reserved for new LPFM stations…[13]

While channels 198-200 may offer some additional NCE service—which we are in favor of—it falls short of "tremendous opportunities" for LPFM entrants. As much as we hoped that this would be a practical solution to provide more LPFM channels where they are needed, it does not. In addition, it is by no means an adequate substitute for any other remedy suggested within the *LPFM Third R&O,* or solutions prescribed by comment from Prometheus *et al.* concerning Docket 99-25.[14]

EMF *et al.* provide an engineering exhibit to "confirm" the tremendous opportunity that LPFM relocation to channels 198-200 would offer. EMF *et al.* states these channels would "meet [the] demand" of LPFM. Within their Engineering Statement, the examination of theoretical LPFM service (provided on page 17) appears misleading:

- The statement says the "study shows the potential for LPFM use in the Sacramento and San Francisco Bay areas" to draw attention to the possibility of LPFM service in these highly populated metropolitan areas. The study actually is of Northern California,

[13] EMF *et al.,* Comment p. 4.
[14] See comments of *Prometheus Radio Project* in FCC ECFS regarding Docket 99-25.

encompassing Fort Bragg (to the NW) to the Nevada border (to the NE) to Madera, CA (to the SE) to Pajaro, CA (to the SW), including roughly eight Arbitron radio markets.[15] The first study, employing channels 198 through 200 (EMF Exhibits A1-A3), mapped according to 47 C.F.R. 73.807, yielded 228 theoretical facilities.[16] This particular study did not explicitly detail what specific populated areas would benefit from these channels. Behind that total number, the exhibit mainly shows rural areas benefiting from these channels. This does little to address the current concern with LPFM, which is the preclusion of LPFM channels in major urban areas—not service to rural areas.

- Many of the theoretical facilities proposed in EMF's engineering exhibit are placed in areas where it would be difficult for any listener to feasibly utilize them. Facilities on undeveloped rural land straddling a city will not adequately serve listeners (example: the resultant of facilities labeled *1* and *2* placed co-channel, residing on undeveloped land straddling Yuba City, CA, are two stations that will interfere with each other over a populated area). Some are located in areas of no population—or even no roads or power (example: facilities labeled *110, 111*, and *114* are all located in an uninhabited mountain range).

[15] San Francisco (#4), Sacramento (#27), San Jose (#35), Fresno, CA (#66) (*Madera only, Fresno not displayed in exhibits*), Stockton (#79), Monterey-Salinas-Santa Cruz, CA (#81) (*Santa Cruz-Watsonville shown, Monterey-Salinas not displayed in exhibits*), Modesto, CA (#108), and Merced (#180).
[16] See EMF *et al.* Comment page 17, chart at bottom of page.

- EMF's study did not account for pending NCE applications such as MX Group 31[17] (88.1 FM) and application BNPED-20071015AAX (88.3 FM). This negates some proposed theoretical facilities just north of San Francisco.

The facilities in EMF's proposal were packed to maximize the bottom-line number of LPFM stations in a random sampling area that extended far outside the Sacramento and San Francisco metropolitan areas. We re-ran the study to show how stations would be likely licensed in *real world* circumstances (see maps in Appendix A, Exhibit CF A1, CF A2, and CF A2). We placed facilities in central cities of over chiefly a thousand persons. Because LPFM is limited to a few miles reach, it makes sense to place facilities in the middle of populated areas accessible to appreciable audiences. Here are our results compared to EMF's:

Figure 1

	Channel 200	Channel 199	Channel 198	Total
EMF Proposed "Theoretical"	42	94	92	228
"In Practice"	9	21	24	54

Now, how many of these proposed facilities reside in urban areas?

B. LPFM Availability for Channels 198-200 in Major Northern California Cities

Current regulations limit the allocation of LPFM channels. Not that many LPFM allocations are available in many core urban areas where they are most in demand. The following summarizes the availability of channels 198, 199, and 200 for LPFM in major Northern California cities according both models presented by EMF and Common Frequency.

[17] See *Media Bureau Identifies Groups of Mutually Exclusive Application Submitted in the October 2007 Filing Window for Noncommercial Educational FM Stations*, FCC DA 08-536, March 7, 2008.

Figure 2

Possibilities of LPFM Channels 198-200 in the Following Cities

Market (Arbitron Rank)	EMF Proposed "Theoretical"		"In Practice"	
	City Proper[18]	City+Metro	City Proper	City+Metro
San Francisco (#4)	1	20[19]	1	12
Sacramento (#27)	0	4[20]	0	1
San Jose (#35)	0	0	0	0
Fresno, CA (#66)[21]	--	--	0	0
Stockton (#79)	0	0	0	0
Monterey-Salinas -Santa Cruz, CA (#81)[22]	0	1[23]	0	0
Modesto, CA (#108)	0	7[24]	0	1
Merced (#180)	0	6[25]	1	1

The summary of both studies above appear to come to one conclusion regarding the eight California radio markets: **Utilizing the current spacing rules, channels 198-200 do not offer much of any coverage of city-centered populations**. EMF *et al*. proposes only one market-centered station located within the city limits of principle city of the named Arbitron radio market. The following summarizes EMF's sample proposal for facilities located **major population centers** in Northern California:

Ch 200
None (allotments 33 and 34—possibility for Santa Rosa—negated by pending NCE)

[18] Located in the city limits of the principle city in the market.
[19] Our "Bay Area" definition liberally extends 80 km north to Santa Rosa and 80 km south to San Jose. Some of this is rural or uninhabited area.
[20] Three LPFM facilities appear to be centered outside any specific city/urbanized area.
[21] Fresno not on EMF map, although Madera—Fresno suburb—included on map. We included Fresno for good measure.
[22] Entire metro not included on EMF's total map.
[23] One proposed facility located in an uninhabited area outside the city of Hollister, CA.
[24] Modesto is surrounded by farmland. Six facilities proposed by EMF within 20 miles of Modesto are outside of cities except for one centered in Patterson, CA.
[25] Five facilities are proposed to be located on chiefly uninhabited land—one located in semi-urban area. None are centered in Merced city-proper.

Ch 199
Vallejo (95), Alamo/Danville (105), Black Point (East Navato) (96), San Francisco (102), Pleasanton (106), Hayward (104), Burlingame (103)

Ch 198
Loomis (197), Marysville/Yuba City (218), Pacifica (161), Petaluma (157), Napa (160), Richmond (163), Oakland (162), Livermore (164)

Total facilities proposed for usage of channels 198-200 in major population centers in Northern California: 14

No Coverage Proposed In, or No Allocations Available In:
Sacramento, Palo Alto/Mountain View, Santa Clara/San Jose, Los Gatos, Morgan Hill/Gilroy, Santa Cruz, Watsonville, Monterey, Salinas, Fremont, Pinole/Hercules, Concord, Walnut Creek, Southeastern Marin, Santa Rosa, Fairfield, Pittsburg/Antioch, Vacaville, Manteca, Davis/Woodland, Carmichael, Rancho Cordova, Elk Grove, Citrus Heights, Tracey, Lodi/Galt, Stockton, Modesto, and Merced.

According to this, 14 of the 228 theoretical facilities (6.1% of total) proposed by EMF *et al*. would reach any real substantial population center in Northern California. When you take into account that channel 200, and possibly channel 199, may be the only viable channels receivable by existing tuners, the possibilities for LPFM are even smaller (3% of total). If you only included channel 200, the level of service drops to 0 (0% of total) facilities located in prime population centers.

EMF *et al*. further creates a set of exhibits that present the LPFM possibilities without affording protection to second and third adjacents (EMF et al., Exhibits A4- A6). Although this appears to yield many more allocations, how these numbers relate to actual new urban service stations is unclear. The added service primarily concentrates on channel 199 (and 198). See Figure 3.

Figure 3

Channel	W/ 2nd & 3rd adj rules	W/O 2nd & 3rd adj rules	Difference	
200	42	56	14	
199	94	130	36	<*Greatest Jump*
198	92	124	32	

In markets where there is a full power NCE on channel 201, excluding second and third adjacent protections still does not liberate the most useful channel—channel 200. Channels 199 and 198 are primarily available. Channel 199 can only be reutilized if spaced >=24 km from each other, or a 48 km diameter. Since 199 and 198 are adjacent to each other, only one can be used within >=14 km, or 28 km diameter. This means in any market with an 88.1 FM service, *at best only one* LPFM can exist every 14 km. If a person cannot receive 87.5 FM on his/her tuner because the receiver does not include that channel, then an LPFM service can only be received every 24 km. **This means, with the exclusion of second and third adjacent rules, that each central city in a 88.1-utilized NCE market may only be able gain at best one LPFM allocation on 87.7 FM—and not everyone may have a tuner that goes down that far to receive that channel.**

EMF's Engineering Statement proclaims, "The reassignment of even a small portion of the Channel 6 spectrum would allow for a vast expansion of the LPFM service (creating far more opportunities for new LPFM service than would any proposal to disrupt existing FM translator service and its possible extension to serve AM stations)." We interpret this to mean that the reclamation of channels 198, 199, 200 for LPFM service would provide more opportunity than *any proposal* to disrupt translator service. Let's test this hypothesis:

Even if we somehow utilized channels below channel 201 within these cities at once at best the following maximum number of LPFM channels you would be able to receive **at any one point of the city** would be:

Figure 4

Market (Arbitron Rank)	With current protections	With 2nd and 3rd adjacent protections removed
San Francisco (#4)	198 *or* 199 = **one channel**	198 *and* 200 = **two channels**
Sacramento (#27)	**none**	198 *or* 199[26] = **one channel**
San Jose (#35)	**none**	198 *or* 199 = **one channel**
Fresno, CA (#66)	**none**	198 *or* 199 = **one channel**
Stockton (#79)	**none**	198 *or* 199 = **one channel**
Monterey-Salinas -Santa Cruz, CA (#81)	**none**	198 *or* 199 = **one channel**
Modesto, CA (#108)	**none**	198 *or* 199 = **one channel**
Merced (#180)	198 = **one channel**	198 *and* 200 = **two channels**

If LPFM service was placed with priority above translator service[27], and LPFM utilized translator rules (contour methodology instead of distance spacing) for licensing, *some of the channels* available in the following cities would be:

Figure 5

San Francisco (#4)	229, 237, 245, 265, 269, 277, 281…	**=at least 7 channels**
Sacramento (#27)	233, 239, 243, 248, 255, 257, 284, 290…	**=at least 8 channels**
San Jose (#35)	225, 229, 257, 264, 278...	**=at least 5 channels**
Fresno, CA (#66)	223, 227, 231, 241, 259, 261, 263, 268…	**=at least 8 channels**
Stockton (#79)	223, 259, 290, 284, 275, 271…	**=at least 6 channels**
Monterey-Salinas -Santa Cruz, CA (#81)	226, 231, 234, 242, 252, 260, 266, 291	**=at least 8 channels**
Modesto, CA (#108)	222, 234, 238, 258, 270, 290…	**=at least 6 channels**
Merced (#180)	234, 244, 256, 251, 256, 258, 264, 271…	**=at least 8 channels**

[26] Established NCE usage of channel 201 precludes usage of 200 in Sacramento, San Jose, Fresno, Stockton, Monterey-Salinas-Santa Cruz, and Modesto.

[27] Hypothetically speaking. We are not advocating here to use of every translator frequency for LPFM service; we are only using this as an example.

Conclusion from above: The usage of 198, 199, and 200 for LPFM service, even with second and third adjacent protections removed, does not remotely approach the capacity of service possible by modifying LPFM service to use rules similar to translator service. Utilization of channels 198-200 does not offer superior breadth of diversity in cities compared to a solution that would allow LPFM to use channels similarly to the way translators are licensed.

The question is how many cities have NCE stations on channels 201, 202, and 203? EMF *et al.* claims "there is no reason to believe similar results could not be achieved in other markets across the country", referring to the vast possibilities for usage of these channels across the country. [28] However, as seen above, in Sacramento, Stockton, San Jose, Fresno, and Santa Cruz, the presence of an NCE using channel 201 prevents the usage of channels 198, 199, and 200 in those cities for LPFM under the current rules. Let us check on their assumption.

According to regulation pertaining to Section 73.807, we can roughly assume the following**:**

Figure 6

NCE channel on…	Precludes usage of…
201	198, 199, 200
202	199, 200, 201
203	200, 201, 202

For an example, let us peruse the top 17 radio markets (see Appendix B). According to this, outlook for "tremendous" usage of channels 198-200 is bleak for any major city under the current rules. If an NCE currently resides on channels 201, 202, 203 in a city, channel 200 is unusable. Unfortunately, all top 17 metros use these channels. Channel 199 is unusable if

[28] EMF *et al.* Comment p. 14.

channels 201 and 202 are used. All central cities areas in the top 17 except possibly parts of Washington, DC, Atlanta, San Francisco, Philadelphia, and possibly Miami may accommodate an 87.7 FM. Metros that do not have a dominant NCE channel 201 may be able to accommodate 87.5 FMs, but not everyone has a receiver to tune this channel in. We visited a local audio-video retailer and surveyed the FM frequency tune-ability for their stock of mobile (car) audio receivers (see Appendix C). The majority of the units we viewed on display could not receive 87.5 FM (and 87.7 FM).[29] If not all new tuners can receive these channels, we question the overall access of these channels to all receivers that are currently out there.

If you also take into consideration that many Part 15 modulators (for iPods, sound feeders, etc) utilize lower-band frequencies around channel 201, the outlook gets murkier. Since LPFM service uses such low power, it may be very difficult to cut across the din of interfering Part 15 modulator devices used in cars and at home for clear usage of these channels.

II. Concerning Comments of Broadcast Maximization Committee

BMC does a comprehensive job at recommending a digital radio alternative for 76-88 MHz. Their comment raises some issues that could use further input to the Commission regarding the following points:

Interference Concerns Between Full Power Stations and LPFM: BMC expresses concern that outgoing interference from expanded LPFM service and incoming interference from full power

[29] For the 35 units that were available at *Fry's Electronics*, 18 tuned down to 87.9 FM (53%), 3 tuned down to 87.7 FM (9%), and 13 tuned down to 87.5 FM (38%). The tuners that generally received 87.5 FM were either higher-end brands (*DP Video*, *Dual*, and *Blaupunkt*) or all *Sony* tuners.

station could problematic if the FCC eliminates second adjacent spacing requirements, and if Congress eliminates third adjacent spacing requirements for LPFM.[30] Their proposed solution to this is that LPFM should be relocated to part of a new band specifically designated for it. Although we do not disagree with allocating part of a new digital radio band for low power broadcasting, this should not be at the cost of allowing LPFM on the current analog commercial FM band. By relocating LPFM to a location on the band where none of the public has receivers, this would not be a benefit to the majority of radio listeners. This also would not increase diversity of ownership of stations that the majority of the public has access to.

The cited interference concerns in the commercial band as a premise for this relocation is arguably moot. Even if LPFM is not permitted second adjacent to full power stations, translators already are. Many pending translators will take the channels in the commercial band if not LPFM services, imposing nearly equivalent interference. If "second adjacents" are used for LPFM, it would be prudent for LPFM applicants to utilize the services of professional contract engineers for contour studies sometime during the LPFM certification process in order to minimize interference concerns. By engineers assisting in picking optimal broadcast antenna locations, choosing ERP and antennas heights, and minimizing the population within the 100 dBu interference overlap, interference concerns could be pragmatically minimized.

Incumbent (AM) Broadcaster Relocation – Although we traditionally tend to think of stations in terms of one audio channel, the digital broadcasting platform is often capable of providing multiple streams per licensed frequency. In any scheme that relocates incumbent broadcasters to more desirable channels, quantity of bandwidth relocated to should be considered.

[30] See *BRC Comment MB Docket No. 07-294*, para 3-8

Automatically granting, say, four streams on one channel to a broadcasters that initially had one mono channel beforehand hampers diversity of ownership and viewpoints on the radio. At the least, an incumbent broadcaster should be held to additional diversity stipulations for additional streams they might gain in any relocation scheme. For example, in BMC's proposal, 17 of the 117 new channels within the current TV 5 and 6 spectrum would be used for new entrants, and 100 would be used for AM migration. Thus, 14.5% of this band would be used for new entrants, and 85.5% for duplicative programming and ownership consistent with the AM band. Is 14.5% of new programming ample diversification of media? Given educational broadcasters contribute most to the diversity of voices, a more sizable portion should be considered for educational broadcasting. If any relocation is considered, the FCC should open comment to how many channels should be allotted to different types of applicants.

Broadcast Audio Platform – Any band allocated for new radio service should undergo a side-by-side platform analysis (analog, HD, Eureka 147, DRM+, etc) to view the following:

- Maximum total channels
- Maximum diversity of new owners
- Preferred audio coding efficiency, latency, etc; open vs proprietary.
- Availability and integration of technology.

For example, BMC proposes a 100 kHz spacing system compared to a 200 kHz system to increase efficiency, which is a plus. However, such a system still relies upon a one-tower-per-one-broadcaster model. The result is broadcast locations are randomly spaced according to the broadcaster's preferred coverage area, or a licensee's studio location for smaller broadcasters

that can't afford towers. Such an allocation scheme may not maximize the usage of power and channels, a current problem that plagues the current FM allocation scheme. If the FCC wanted to maximize spectrum efficiency, it may want to utilize a pre-planned spacing scheme, like in the case of digital multiplexes. With centralized urban multiplexes, the digital signals all have identical/predictable "drop off" areas in which other multiplexes could take over, allowing for an organized "cellular" approach to radio across the nation. The "one-tower-per/varied wattage/height" model is more prone to random drop-off locations per each station. In this aspect, digital radio is not superior to analog in fringe-listening areas. Many analog FM stations have listeners far outside their protected contours due to the fact that analog FM can be listenable even when compounded by noise, adjacent channels, and multipath. How to cater to current fringe listener areas that can receive analog radio, but should not be able to receive a digital replacement should be taken under consideration in any new channel formatting.

If a digital platform is sought, we encourage the adaptation of an approach that is different from the current US digital radio model. We believe a non-proprietary digital format may encourage a competition for the best new technology and the most diverse array of new broadcast entrants.

III. Conclusion

As shown in our study, channels 198-200 offer little in the way of alleviating demand for LPFM in metropolitan areas even in the absence of television channel 6. At best, channel 200, which is the most widely available on current FM receivers, can only be utilized if a radio market is devoid of NCE full power on channels 201, 202, 203, which a person would be hard-

pressed to actually find. Channels 198 and 199 have similar bleak outlooks, plus the inability to be received on all tuners. Even with ignoring second and third adjacent stipulations in Section 73.807, the availability of LPFM is still to at best one viable channel per area that not all radio listeners have access to on their tuners. Relegating LPFM expansion to channels 198-200 offers very significantly less channel options than any proposal to "disrupt translator service" in the commercial band (see Figures 4 and 5).

Relegating LPFM expansion to channels 198-200 does not run parallel to current FCC policies. Channels under 221 are currently designated for full power NCE service and NCE translators. We are unclear about EMF's proposal to negate second and third adjacent spacing consideration;[31] providing this for only channels 198, 199, 200 may be considered inconsistent policy-making.

We encourage use channels 198-200 that is more in line with the Commission's existing guidelines. Since full power NCE service already utilizes channels under 221, extending this service down to channel 200 or below may be more consistent with current policy. And, under current regulation, full power NCE facilities are better equipped to deal with contour spacing issues than the current LPFM service, anyway.[32] In addition, channels 198-200 could also be used for displaced translators, as current rules stipulate for channel 200.[33] In Prometheus/Common Frequency's prior proposal it was stated that local LPFM should be given preference over broadcast entities that feed more than 10 total translators to the top radio

[31] See EMF's Comment, Exhibits A4-A6
[32] NCEs can be placed as "rimshots" on the side of a city to dodge existing protected contours of second and third adjacent stations, and are given power up to 100 kW to penetrate back into an urban area.
[33] See Section 73.501

markets.[34] Channels 198-200 could facilitate these displaced translators so *both* LPFM and translators could be accommodated. We believe this option would allow for maximized efficiency of channels and broadcast diversity, given the current regulations.

With comment to new radio channels occupying 76-88 MHz, we urge the Commission to scrutinize any proposal. While we are for extending radio service to this spectrum, there is no reason why LPFM should be relegated to it as an alternative to expansion within the current FM band.

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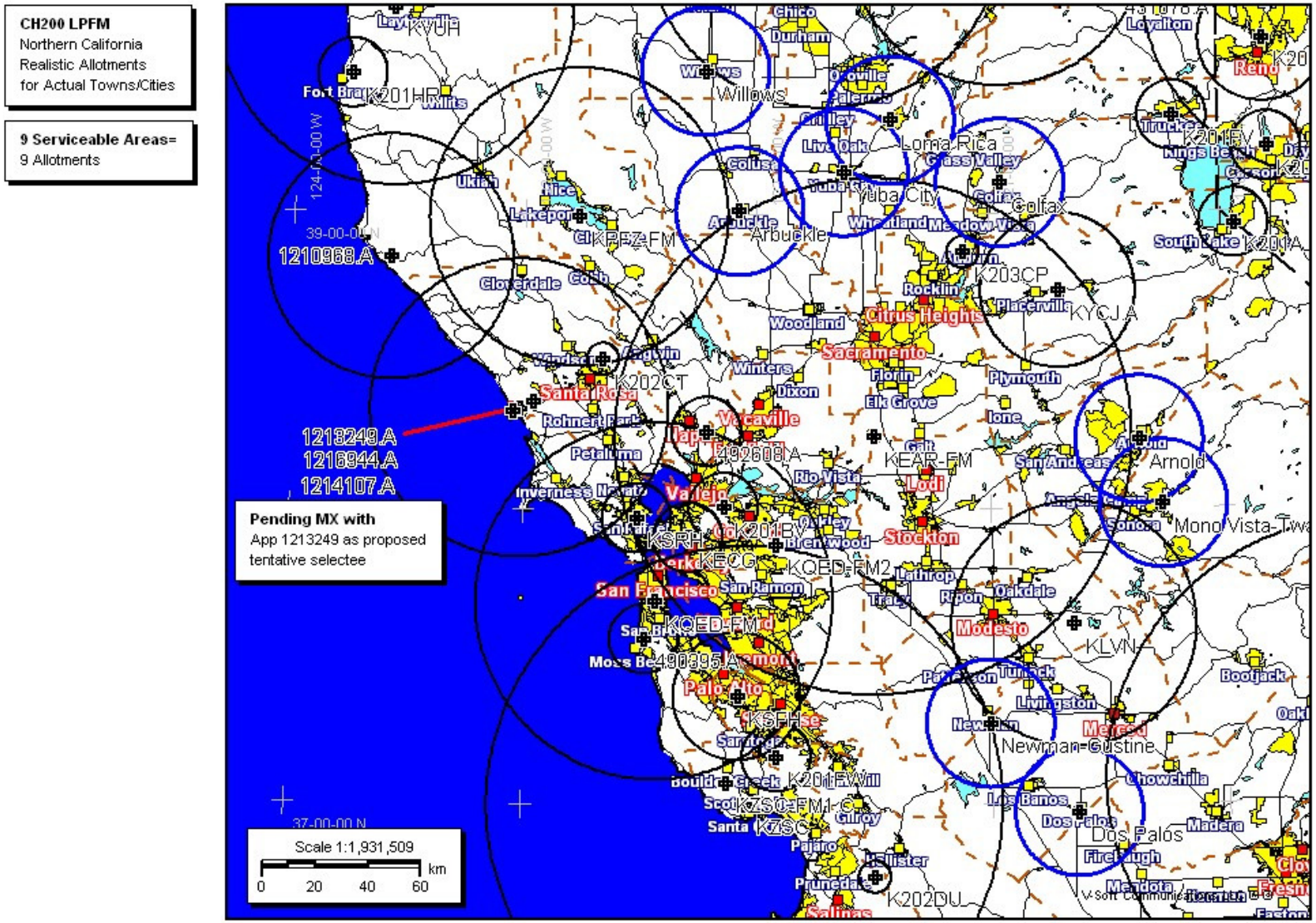
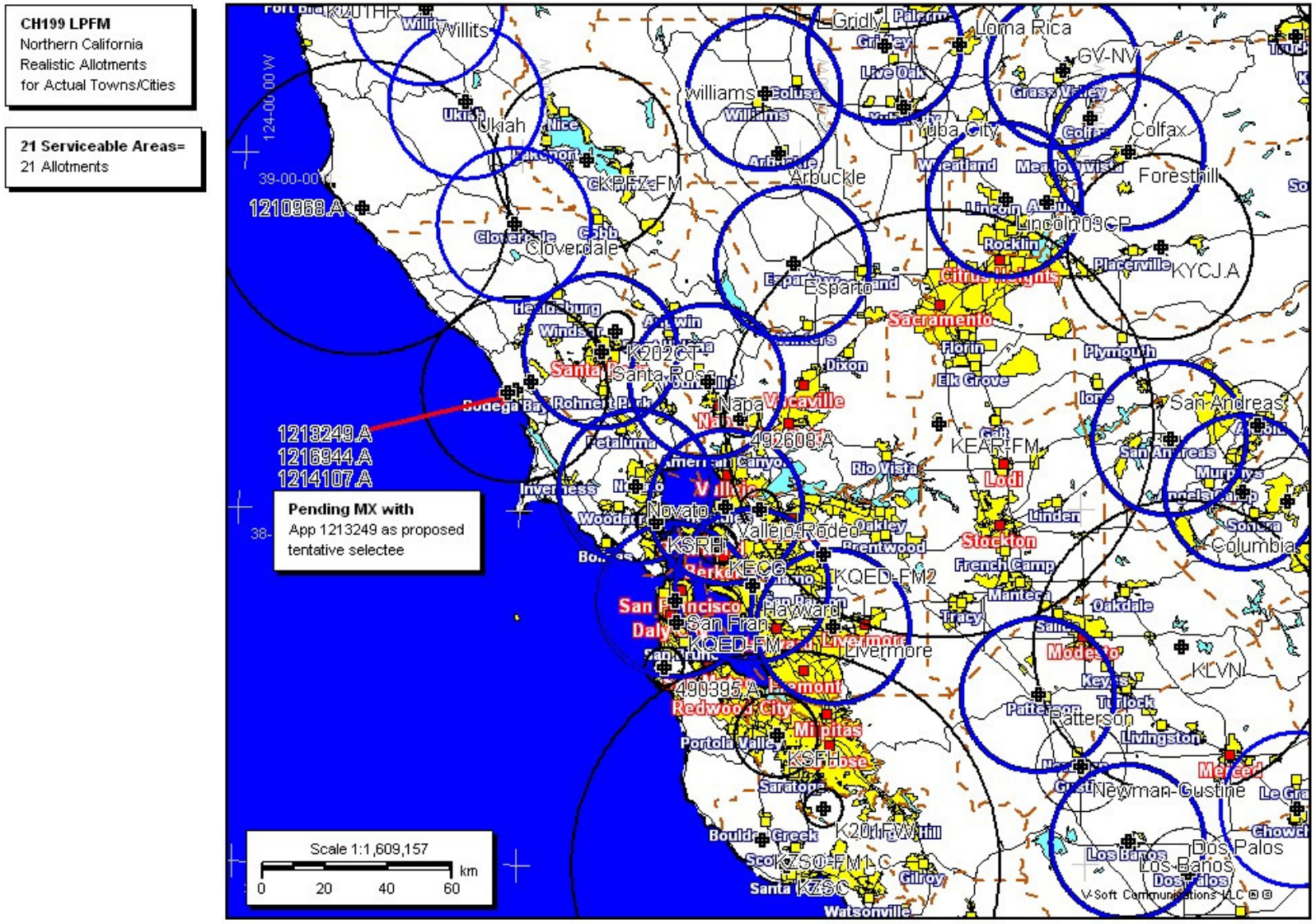
[34] See *Prometheus/Common Frequency* Comment for Docket No. 99-25, 04/07/08.

APPENDIX A, Exhibit: CF A1: Channel 200

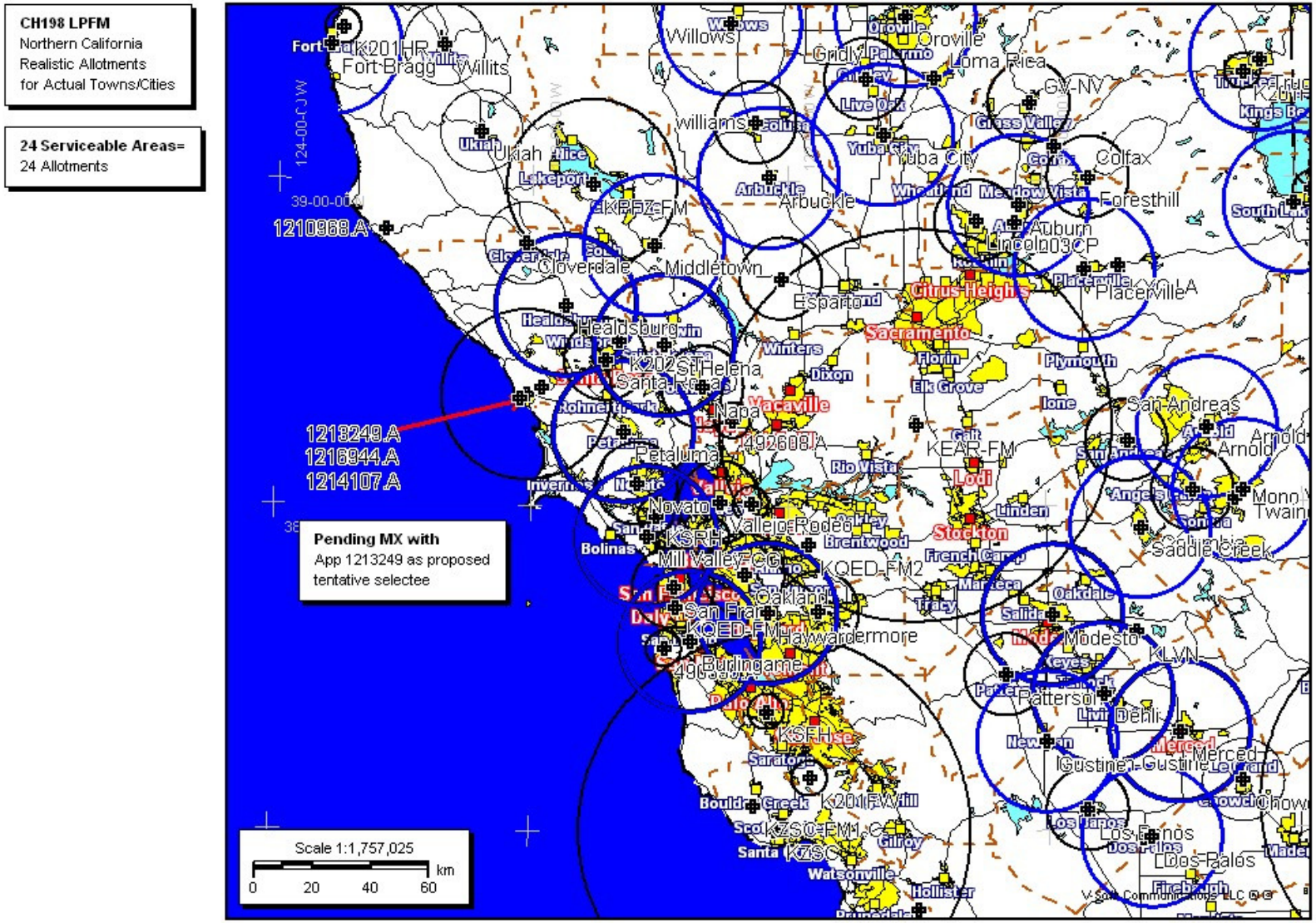


Blue indicates proposed LPFM facility's co-channel protection radius. Note regarding "Pending MX", above: Using a mock point analysis, we chose one application in MX Group 31 to a represent a tentative selectee (ID# 1213249) to draw one protective radius for this channel for depictive clarity.

APPENDIX A, Exhibit: CF A2: Channel 199



APPENDIX A, Exhibit: CF A3: Channel 198



APPENDIX B: Channel listings in/near Top-17 metropolitan areas[35]

New York, NY
88.1 201A WXBA BRENTWOOD NY
88.1 201D WARY VALHALLA NY
88.1 201A WYGG ASBURY PARK NJ
88.1 201A WCWP BROOKVILLE NY
88.1 201D NEW NEW YORK NY
88.1 201A WDNJ HOPATCONG NJ
88.3 202B1 WBGO NEWARK NJ
88.5 203A WVOF FAIRFIELD CT
88.5 203A WKWZ SYOSSET NY
88.5 203A WPOB PLAINVIEW NY
88.5 203A WEDW-FM STAMFORD CT
88.5 203A WNJP SUSSEX NJ
88.5 203D NEW RED BANK NJ
88.5 203D W203BB NORWALK CT

NCE usage of Ch 201, 202, and 203 in the market.

Los Angeles, CA
88.1 201B KKJZ LONG BEACH CA (application pending to cover all LA)
88.3 202B1 KCLU THOUSAND OAKS CA
88.3 202A KUCR RIVERSIDE CA
88.5 203A KCSN NORTHRIDGE CA
88.5 203A KSBR MISSION VIEJO CA

NCE usage of 201 for Los Angeles precludes use of 198-200; Ch 202 used in Inland Empire.

Chicago, IL
88.1 201D WSSD CHICAGO IL
88.1 201A WLTL LA GRANGE IL
88.1 201A WCRX CHICAGO IL
88.1 201A WNTH WINNETKA IL
88.1 201A WWTG CARPENTERSVILLE IL
88.1 201A WETN WHEATON IL
88.1 201A WAES LINCOLNSHIRE IL
88.1 201A WBMF CRETE IL
88.1 201A WLRA LOCKPORT IL
88.1 201A NEW WINNETKA IL
88.1 201A WTZI ROSEMONT IL
88.3 202A WZRD CHICAGO IL
88.3 202A WXAV CHICAGO IL
88.3 202A WDGC-FM DOWNERS GROVE IL

[35] San Francisco metro area excluded; see Appendix A.

88.3 202A WHCM PALATINE IL
88.3 202A WCLR ARLINGTON HEIGHTS IL
88.3 202A WDSO CHESTERTON IN
88.3 202A NEW WAUKEGAN IL
88.5 203A WHFH FLOSSMOOR IL
88.5 203A WHPK-FM CHICAGO IL
88.5 203A WHSD HINSDALE IL
88.5 203D W203AJ MICHIGAN CITY IN
88.5 203A WGBK GLENVIEW IL
88.5 203A NEW GLENVIEW IL, FLOSSMOOR IL, ANTIOCH IL, ZION IL, BLOOMINGDALE IL, SOUTH ELGIN IL, HAMPSHIRE IL, KENOSHA WI, MINOOKA IL

Extensive usage of Ch 201, 202, and 203.

Dallas, TX
88.1 201C1 KNTU MCKINNEY TX (100 kW)
88.3 202C3 KJCR KEENE TX
88.5 203C1 KEOM MESQUITE TX
88.5 203C3 KMQX WEATHERFORD TX

Use of Ch 201 (100 kW) from N. Dallas metro precludes most use of 198-200, and Ch 202 KJCR for S. Dallas metro precludes 199-200.

Houston, TX
88.1 201D K201EU KATY TX
88.1 201D K201DZ PORT BOLIVAR TX
88.1 201A KFTG PASADENA TX
88.3 202C1 KAFR CONROE TX
88.7 204C KUHF HOUSTON TX

Usage of Ch 201 in South Houston precludes usage of 198-200 to core Houston.

Philadelphia, PA
88.1 201A WNJS-FM BERLIN NJ
88.1 201A WDIY ALLENTOWN PA
88.1 201A WNJT-FM TRENTON NJ
88.1 201A WMHS PIKE CREEK DE
88.1 201A WZZD WARWICK PA
88.1 201D WPEB PHILADELPHIA PA
88.1 201A NEW HAGERVILLE NJ, SHILOH NJ, PENNSVILLE NJ, PORT PENN DE
88.3 202A WVBH BEACH HAVEN WEST NJ
88.3 202A NEW EAST NOTTINGHAM PA
88.3 202A NEW RISING SUN MD
88.3 202A KQAI ROSWELL NM
88.5 203B WXPN PHILADELPHIA PA

Ch 200 is voided by WXPN.

Atlanta, GA
88.1 201D NEW HOLLY SPRINGS GA
88.1 201D NEW LEBANON GA
88.1 201D W201CC BUFORD GA
88.5 203C1 WRAS ATLANTA GA

Ch 200 voided by WRAS. Atlanta has some possibilities under 200.

Washington, DC
88.1 201D WMUC-FM COLLEGE PARK MD
88.1 201B1 WYPF FREDERICK MD
88.1 201A NEW COLONIAL BEACH VA
88.1 201B1 NEW AQUIA HARBOUR VA
88.1 201B1 WYPR BALTIMORE MD
88.5 203B WAMU WASHINGTON DC

WYPR Ch 201 Baltimore precludes use of 200 in Washington DC.

Boston, MA
88.1 201A WCHC WORCESTER MA
88.1 201A WMBR CAMBRIDGE MA
88.1 201A WELH PROVIDENCE RI
88.1 201A WFHL NEW BEDFORD MA
88.3 202A WRPS ROCKLAND MA
88.3 202A WQRI BRISTOL RI
88.3 202A WGAO FRANKLIN MA
88.3 202A WIQH CONCORD MA
88.3 202A WBMT BOXFORD MA
88.3 202A WEVS NASHUA NH
88.5 203A WWTA MARION MA
88.5 203A NEW GLOUCESTER MA, NEWBURYPORT NH, ESSEX MA, AMESBURY MA, ROCKPORT MA, ROCKPORT MA, KINGSTON NH, MIDDLEBORO MA, MIDDLEBOROUGH CENTER MA

Extensive usage of Ch 201 and 202; no use of 198-200 in central Boston area.

Detroit, MI
88.1 201A WSDP PLYMOUTH MI
88.1 201A WBGU BOWLING GREEN OH
88.1 201A WBFH BLOOMFIELD HILLS MI
88.1 201D W201AX FREMONT OH
88.1 201D WHPR-FM HIGHLAND PARK MI
88.1 201A NEW BLOOMFIELD HILLS MI
88.1 201A WDTR MONROE MI

88.1 201B1 NEW SANDUSKY OH
88.3 202A WXTS-FM TOLEDO OH
88.3 202A WCBN-FM ANN ARBOR MI
88.3 202A WXUT TOLEDO OH
88.3 202D NEW BERLIN TOWNSHIP MI
88.3 202D NEW HARRISON TOWNSHIP MI
88.3 202A WAQQ ONSTED MI
88.3 202A WSHJ SOUTHFIELD MI
88.3 202A WSHM WIXOM MI
88.3 202A NEW GROSSE POINT SHORES MI
88.5 203A NEW FRASER MI

Extensive use of Ch 201 and 202, in addition to any Canadian stipulations, limit 198-200 to outside core area.

Miami, FL
88.1 201A WRGP HOMESTEAD FL
88.3 202A WIRP PENNSUCO FL
88.5 203A WKPX SUNRISE FL
88.5 203C3 WMFL FLORIDA CITY FL

Channel 201 does not preclude all usage of channels below 200 in the entire metro area since it is located to the south of the metro.

Puerto Rico
88.1 201B WCRP GUAYAMA PR
88.5 203A WPLI LEVITTOWN PR

Class B station on Ch 201 negates use of 198-200 in San Juan metro.

Seattle, WA
88.1 (201C) KLOP OCEAN PARK WA
88.1 201D K201AB WEST SEATTLE, ETC. WA
88.1 201D K201EN EVERETT WA
88.1 201D K201EX GREENWATER WA
88.1 201D K201ET PORT TOWNSEND WA
88.5 203C KPLU-FM TACOMA WA

Pending use of Ch 201 by EMF's application for the Southern Puget Sound, and use of analog Ch 6 by CHEK-TV Victoria, BC (100 kW, near the US-CAN border), negate feasible usability of 198-200.

Phoenix, AZ
88.3 202C1 KNAI PHOENIX AZ
88.3 202C1 KPHF PHOENIX AZ (same)

One centralized Ch 202 negates use of 200 and 199.

Minneapolis, MN
88.1 201A NEW SAINT PAUL PARK, NEWPORT, ROSEMOUNT MN
88.3 202C3 NEW YOUNG AMERICA MN
88.3 202C3 NEW WACONIA MN
88.3 202C3 NEW HUTCHINSON MN
88.5 203A KBEM-FM MINNEAPOLIS MN

Pending apps for Saint Paul Park and Newport on 201 would negate use of channels 198-200 in most of core Minneapolis/St Paul area. Ch 203 prevents use of 200.

San Diego, CA
88.3 202B1 KSDS SAN DIEGO CA

Ch 202 prevents usage of 199 and 200. Additional rules may apply to protect Mexican television stations.

APPENDIX C: New mobile audio tuners and low-end tune-ability.

We visited a local *Fry's Electronics* and examined the selection of vehicle-based audio tuners available. The following shows the lower extent of their tune-ability on the FM band

Blaupunkt MP27	87.5 MHz
Blaupunkt MS27	87.7
Blaupunkt MS47	87.7
Blaupunkt MS57	87.7
Clarion DB185MP	87.9
Clarion DX2385	87.9
Clarion DX2585	87.9
Clarion DX2785	87.9
Clarion FB27BT	87.5
DPVIDEO DP311X	87.5
DUAL XHD6420	87.5
DUAL XHD6425	87.5
JVC KD-BT11	87.5
Kenwood KDC MP138	87.9
Kenwood KDC MP208	87.9
Kenwood KDC MP238	87.9
Kenwood KDC MP438U	87.9
Kenwood KDC MP538U	87.9
Kenwood KDC MP738U	87.9
Panasonic CQ-RX100U	87.9
Panasonic CQ-RX200U	87.9
Pioneer DEH 2000MP	87.9

Pioneer DEH P4000IB	87.9
Pioneer DEH P5000UB	87.9
Pioneer DEH P6000UB	87.9
Pioneer DEH P700UBT	87.9
Pioneer DEHHP3000IB	87.9
Sony CDXGT420	87.5
Sony CDXGT520	87.5
Sony CDXGT610	87.5
Sony CDXGT720	87.5
Sony CDXGT820	87.5
Sony MEX BT 2600	87.5
Sony MEX BT 5100	87.5

* * * *

Respectfully Submitted by,

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August 29, 2008